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Normal human monocytes exposed to pulsed wave 2.45 GHz RFR for a continuous period of 90 minutes were analyzed for genes that are involved in double strand break-repair and mis-match repair. The hybridization chamber was used to sucessfully carry out the RNase protection assay. In addition, MM-6 cells exposed to the pulsed wave 2.45GHz RFR for a continuous period of 90 minutes was used to characterize the subunit composition of nuclear factor-kB. The hybridization chamber was used to successfully perform the Immunobloting and Enhanced Chemiluminescence detection of expressed proteins.

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FINAL TECHNICAL REPORT

Hybridization Oven for Research Exploring Molecular Changes in Cells Exposed to Microwave Radiation

The hybridization chamber was used for Immunobloting detection of proteins and Northernblot analysis of mRNA expression. The oven was used to simultaneously hybridize a multitude of membranes at a time with different probes. It was also used for strip-washing and re-probing of different set of mRNA expression. The defined temperature control provided an unique situation to precisely process samples during pre-hybridization, hybridization, washing and developing with chromogenic agents and radiolabeled probes. Since the experimental methods were performed in leak-proof closed β-blocking acrylic containers, the usage of this equipment posed minimum risk.

Normal human monocytes exposed to the pulsed wave 2.45 GHz RFR for a continuous period of 90 min were analyzed for genes that are involved in double strand break-repair and mis-match repair. The hybridization chamber was used to successfully carryout the RNase protection assay. In addition, MM-6 cells exposed to the pulsed wave 2.45 GHz RFR for a continuous period of 90 min was used to characterize the subunit composition of nuclear factor-kB. The hybridization chamber was used to successfully perform the Immunobloting and Enhanced Chemiluminescence detection of expressed proteins.